AMENDMENTS TO THE CLAIMS:

Replacement Claim Set:

1. (Currently amended) A method of forming a coating for an implantable medical device, comprising

inserting the device into a chamber;

adjusting the pressure of the chamber to a pressure other than ambient pressure such that the medical device has a smoother coating surface;

followed by applying a composition comprising a solvent to the implantable device while the device is disposed in an environment having the pressure at other than ambient pressure

wherein

the pressure is greater than 760 torr if the solvent evaporation rate is to be decreased, and

alternatively, wherein other than ambient pressure is less than 760 torr if the solvent evaporation rate is to be increased~~, and~~

~~wherein the step of adjusting the pressure of the chamber to a pressure other than ambient pressure results in the medical device having a smoother coating surface~~.

2. (Original) The method of Claim 1 wherein the composition comprises a polymer dissolved in the solvent and optionally a therapeutic substance added thereto.

3. (Previously Presented) The method of Claim 2

wherein the therapeutic substance is

an antiproliferative antineoplastic, antiinflammatory, antiplatelet, anticoagulant,

antifibrin, antithrombin, antimitotic, antioxidant, or a combination of these; or

an antibiotic combined with an antiproliferative antineoplastic, antiinflammatory, antiplatelet, anticoagulant, antifibrin, antithrombin, antimitotic, antioxidant, or a combination of these.

4. (Original) The method of Claim 2 wherein the solvent comprises a compound selected from chloroform, acetone, water, buffered saline, dimethylsulfoxide, propylene glycol methyl ether, isopropyl alcohol, n-propyl alcohol, methanol, ethanol, tetrahydrofuran, dimethylformamide, dimethyl acetamide, benzene, toluene, xylene, hexane, cyclohexane, heptane, octane, nonane, decane, decalin, ethyl acetate, butyl acetate, isobutyl acetate, isopropyl acetate, butanol, diacetone alcohol, benzyl alcohol, acetone, 2-butanone, cyclohexanone, dioxane, methylene chloride, carbon tetrachloride, tetrachloroethylene, tetrachloroethane, chlorobenzene, 1,1,1-trichloroethane, formamide, and their combinations.

5. (Original) The method of Claim 1 wherein the act of applying comprises spraying the composition on the implantable device.

6. (Original) The method of Claim 1 wherein the implantable device is a stent and the act of applying comprises spraying the composition while rotating the stent about the longitudinal axis of the stent.

7. (Original) The method of Claim 1 wherein the implantable device is a stent and the act of applying comprises spraying the composition while moving the stent in a linear direction along the longitudinal axis of the stent.

8. (Original) The method of Claim 1 wherein the composition includes a therapeutic substance and wherein the temperature of the chamber is adjusted to a temperature that does not adversely affect the therapeutic substance.

9. (Original) The method of Claim 8 wherein the composition comprises a polymer dis-

solved in the solvent.

10. (Currently Amended) A method of forming a coating for an implantable medical device, comprising

inserting the device into a chamber;

adjusting the pressure of the chamber to a pressure other than ambient pressure, such that the medical device has a smooth coating surface;

followed by applying a composition comprising a solvent to the implantable device while the device is disposed in an environment having the pressure at other than ambient pressure,

wherein the pressure is selected based on the vapor pressure of the solvent ~~and~~

~~wherein the step of adjusting the pressure of the chamber to a pressure other than ambient pressure results in the medical device having a smoother coating surface~~.

11. (Original) The method of Claim 10 wherein the composition comprises a polymer dissolved in the solvent and optionally a therapeutic substance added thereto.

12. (Previously Presented) The method of Claim 11 wherein the therapeutic substance is

an antiproliferative antineoplastic, antiinflammatory, antiplatelet, anticoagulant, antifibrin, antithrombin, antimitotic, antioxidant, or a combination of these; or

an antibiotic combined with an antiproliferative antineoplastic, antiinflammatory, antiplatelet, anticoagulant, antifibrin, antithrombin, antimitotic, antioxidant, or a combination of these.

13. (Original) The method of Claim 11 wherein the solvent comprises a compound selected from chloroform, acetone, water, buffered saline, dimethylsulfoxide, propylene glycol

methyl ether, isopropyl alcohol, n-propyl alcohol, methanol, ethanol, tetrahydrofuran, dimethylformamide, dimethyl acetamide, benzene, toluene, xylene, hexane, cyclohexane, heptane, octane, nonane, decane, decalin, ethyl acetate, butyl acetate, isobutyl acetate, isopropyl acetate, butanol, diacetone alcohol, benzyl alcohol, acetone, 2-butanone, cyclohexanone, dioxane, methylene chloride, carbon tetrachloride, tetrachloroethylene, tetrachloroethane, chlorobenzene, 1,1,1-trichloroethane, formamide, and their combinations.

14. (Original) The method of Claim 10 wherein the act of applying comprises spraying the composition on the implantable device.

15. (Original) The method of Claim 10 wherein the implantable device is a stent and the act of applying comprises spraying the composition while rotating the stent about the longitudinal axis of the stent.

16. (Original) The method of Claim 10 wherein the implantable device is a stent and the act of applying comprises spraying the composition while moving the stent in a linear direction along the longitudinal axis of the stent.

17. (Original) The method of Claim 1 wherein the composition includes a therapeutic substance and wherein the temperature of the chamber is adjusted to a temperature that does not adversely affect the therapeutic substance.

18. (Original) The method of Claim 17 wherein the composition includes a polymer dissolved in the solvent.

19. (Previously Presented) The method of Claim 2 wherein the therapeutic substance is paclitaxel, docetaxel, dexamethasone, or rapamycin.

20. (Previously Presented) The method of Claim 12 wherein the therapeutic substance is paclitaxel, docetaxel, dexamethasone, or rapamycin.

21. (Currently amended) A method of forming a coating for an implantable medical device, comprising

inserting the device into a chamber;

adjusting the pressure of the chamber to a pressure other than ambient pressure such that the medical device has a smoother coating surface;

applying a composition comprising a solvent and a therapeutic substance to the implantable device while the device is disposed in an environment having the pressure at other than ambient pressure,

wherein the pressure is greater than 760 torr if the solvent evaporation rate is to be decreased, and alternatively,
wherein other than ambient pressure is less than 760 torr if the solvent evaporation rate is to be increased; and
~~wherein the step of adjusting the pressure of the chamber to a pressure other than ambient pressure results in the medical device having a smoother coating surface, and~~
wherein the therapeutic substance is

an antiproliferative antineoplastic, antiinflammatory, antiplatelet, anticoagulant, antifibrin, antithrombin, antimitotic, antioxidant, or a combination of these; or

an antibiotic combined with an antiproliferative antineoplastic, antiinflammatory, antiplatelet, anticoagulant, antifibrin, antithrombin, antimitotic, antioxidant, or a combination of these.

22. (Previously Presented) The method of Claim 21 wherein the composition comprises a polymer dissolved in the solvent.

23. (Previously Presented) The method of Claim 22 wherein composition comprises the therapeutic substance.

24. (Previously Presented) The method of Claim 23 wherein the therapeutic substance is paclitaxel, docetaxel, rapamycin, dexamethasone, or any combination of these.

25. (Previously Presented) The method of Claim 22 wherein the solvent comprises a compound selected from chloroform, acetone, water, buffered saline, dimethylsulfoxide, propylene glycol methyl ether, isopropyl alcohol, n-propyl alcohol, methanol, ethanol, tetrahydrofuran, dimethylformamide, dimethyl acetamide, benzene, toluene, xylene, hexane, cyclohexane, heptane, octane, nonane, decane, decalin, ethyl acetate, butyl acetate, isobutyl acetate, isopropyl acetate, butanol, diacetone alcohol, benzyl alcohol, acetone, 2-butanone, cyclohexanone, dioxane, methylene chloride, carbon tetrachloride, tetrachloroethylene, tetrachloroethane, chlorobenzene, 1,1,1-trichloroethane, formamide, and their combinations.

26. (Previously Presented) The method of Claim 21 wherein the act of applying comprises spraying the composition on the implantable device.

27. (Previously Presented) The method of Claim 21 wherein the implantable device is a stent and the act of applying comprises spraying the composition while rotating the stent about the longitudinal axis of the stent.

28. (Previously Presented) The method of Claim 21 wherein the implantable device is a stent and the act of applying comprises spraying the composition while moving the stent in a linear direction along the longitudinal axis of the stent.

29. (Previously Presented) The method of Claim 21 wherein the composition includes a therapeutic substance and wherein the temperature of the chamber is adjusted to a temperature that does not adversely affect the therapeutic substance.

30. (Previously Presented) The method of Claim 29 wherein the composition comprises a polymer dissolved in the solvent.

31. (Currently amended) A method of forming a coating for an implantable medical device, comprising

inserting the device into a chamber;

adjusting the pressure of the chamber to a pressure other than ambient pressure such that the medical device has a smoother coating surface;

applying a composition comprising:

a solvent; and

a therapeutic substance,

to the implantable device while the device is disposed in an environment having the pressure at other than ambient pressure

wherein the pressure is selected based on the vapor pressure of the solvent and ~~wherein the step of adjusting the pressure of the chamber to a pressure other than ambient pressure results in the medical device having a smoother coating surface, and~~ wherein the therapeutic substance is

an antiproliferative antineoplastic, antiinflammatory, antiplatelet, anticoagulant, antifibrin, antithrombin, antimitotic, antioxidant, or a combination of these; or

an antibiotic combined with an antiproliferative antineoplastic, antiinflammatory, antiplatelet, anticoagulant, antifibrin, antithrombin, antimitotic, antioxidant, or a combination of these.

32. (Previously Presented) The method of Claim 31 wherein the composition comprises a polymer dissolved in the solvent and optionally a therapeutic substance added thereto.

33. (Previously Presented) The method of Claim 32 wherein the therapeutic substance is paclitaxel, docetaxel, rapamycin, dexamethasone, or any combination of these.

34. (Previously Presented) The method of Claim 32 wherein the solvent comprises a compound selected from chloroform, acetone, water, buffered saline, dimethylsulfoxide, propylene glycol methyl ether, isopropyl alcohol, n-propyl alcohol, methanol, ethanol, tetrahydrofuran, dimethylformamide, dimethyl acetamide, benzene, toluene, xylene, hexane, cyclohexane, heptane, octane, nonane, decane, decalin, ethyl acetate, butyl acetate, isobutyl acetate, isopropyl acetate, butanol, diacetone alcohol, benzyl alcohol, acetone, 2-butanone, cyclohexanone, dioxane, methylene chloride, carbon tetrachloride, tetrachloroethylene, tetrachloroethane, chlorobenzene, 1,1,1-trichloroethane, formamide, and their combinations.

35. (Previously Presented) The method of Claim 31 wherein the act of applying comprises spraying the composition on the implantable device.

36. (Previously Presented) The method of Claim 31 wherein the implantable device is a stent and the act of applying comprises spraying the composition while rotating the stent about the longitudinal axis of the stent.

37. (Previously Presented) The method of Claim 31 wherein the implantable device is a stent and the act of applying comprises spraying the composition while moving the stent in a linear direction along the longitudinal axis of the stent.

38. (Previously Presented) The method of Claim 21 wherein the composition includes a therapeutic substance and wherein the temperature of the chamber is adjusted to a temperature that does not adversely affect the therapeutic substance.

39. (Previously Presented) The method of Claim 38 wherein the composition includes a polymer dissolved in the solvent.